

**REMARKS**

This Amendment is responsive to the Office Action dated July 6, 2007. Applicant has not amended any of the claims. Claims 30-49 remain pending.

**Rejections for Obviousness-type Double Patenting:**

The Examiner provisionally rejected claims 30 and 44-48 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 36 and 41-46 of copending Application 10/790,965.

The Examiner provisionally rejected claims 44 and 48 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 42 and 46 of copending Application 10/790,970.

The Examiner rejected claim 30 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 12 of U.S. Patent 6,728,196.

The Examiner rejected claims 30-49 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,890,704.

Applicant respectfully traverses these rejections. The double patenting rejections are in clear violation of MPEP 804.01 "Prohibition of Double Patenting Rejections Under 35 USC 121." The filing of the present application was a direct result of various Restriction Requirements imposed by the USPTO. Therefore, the double patenting rejections are clearly prohibited under MPEP 804.01, and must be withdrawn.

Attached with this response is a copy of an Office Action mailed September 30, 1999 for parent application 09/055,825. In this Office Action, the Patent Office restricted different claims as being directed to the following patentably distinct subject matter: methods, masters, optical disk substrates (i.e., replicas), and stampers.

Also attached with this response is a copy of another Restriction Requirement mailed April 9, 2003 for parent application 09/850,252, which corresponds to US Patent 6,728,196. In this Office Action, the Patent Office again restricted different claims as being directed to masters, optical disk substrates (i.e., replicas), and stampers. Notably, the present Examiner (Examiner Huber) imposed the Restriction Requirement mailed on April 9, 2003.

In view of the subject matter restrictions imposed by the Patent Office in parent application 09/055,825, and again in parent application 09/850,252, the current double patenting rejections are prohibited under MPEP 804.01, and must be withdrawn.

**Claim Rejections Under 35 U.S.C. § 102 and 35 U.S.C. § 103**

In the Office Action, the Examiner rejected claims 30-34, 36-42 and 44-49 under 35 U.S.C. 102(b) as being anticipated by Suzuki (US 4,947,384). The Examiner rejected claims 35 and 43 under 35 U.S.C. 103(a) as being obvious over Suzuki '384.

Applicant respectfully traverses the rejections. The passages of Suzuki '384 relied upon by the Examiner are mis-translations of the Japanese priority document. In particular, the term “ $\mu\text{m}$ ” (“micrometer”) in Suzuki '384 was mistranslated to “ $\mu\text{in}$ ” (“microinches”). The term “ $\mu\text{m}$ ” does not translate directly to “ $\mu\text{in}$ ,” but requires metric-to-English conversion of the units. The mis-translation in Suzuki '384 is very apparent as the dimensions of Suzuki '384, listed as being conventional, are clearly meant to be micrometers rather than microinches.

Furthermore, the teaching of Suzuki '384 is non-enabling of the listed dimensions in microinches. Given the fact that the listed dimensions in Suzuki '384 are clearly mis-translated, and the fact that the teaching of Suzuki '384 fails to enable any way to achieve such dimensions in a master disk, the rejections must be withdrawn.

**Translation Error in Suzuki**

Attached with this response is a translation of the background section of Japanese Application 62-90081, which is the Japanese priority document to Suzuki '384. As can be seen in this document, Japanese Application 62-90081 describes conventional track pitches as being 1.6  $\mu\text{m}$  (micrometers), which corresponds to 1600 nanometers. Japanese Application 62-90081 also describes the width of the guiding groove as being 0.8  $\mu\text{m}$  (micrometers), which corresponds to 800 nanometers.

Suzuki '384 was mis-translated. In particular, the term “ $\mu\text{m}$ ” was translated to “ $\mu\text{in}$ .” However, the term “ $\mu\text{m}$ ” does not accurately translate directly to “ $\mu\text{in}$ ,” and Suzuki '384 fails to contemplate the disclosed dimensions in “ $\mu\text{in}$ .” Specifically, the term “ $\mu\text{m}$ ” does not translate

directly to “ $\mu\text{in}$ ,” but requires metric-to-English conversion of the units, which appears to have been mistakenly overlooked in Suzuki '384.

Suzuki '384 provides nothing more than a mis-translation of the term “ $\mu\text{m}$ ”. It is this mis-translation, and not the actual teaching of Suzuki '384, that corresponds to the dimensions recited in Applicant's claims.

The fact that Suzuki '384 provides nothing more than a mis-translation of the term “ $\mu\text{m}$ ” is apparent from the teaching of Suzuki '384. In particular, Suzuki '384 discusses the 1.6  $\mu\text{in}$  track pitches in the Background section, e.g., implying that such track pitches were conventional at the time of the filing of Suzuki '384. However, at the time of the Suzuki '384 patent filing, 1.6  $\mu\text{m}$  track pitches were conventional for compact disc (CD) formats, not 1.6  $\mu\text{in}$  track pitches. Clearly, Suzuki '384 contemplated 1.6  $\mu\text{m}$  track pitches as the conventional “Background” art, and not 1.6  $\mu\text{in}$  track pitches, as provided by the mis-translation. One of ordinary skill in the art would have immediately recognized this discrepancy.

#### Suzuki is Non-Enabling of the Dimensions Required by Applicant's Claims

Suzuki (US 4,947,384) and its priority document JP 62-90081 are in agreement with regard to all of the commonly available conventional information, with the exception that JP 62-90081 expresses the track pitch as 1.6 micrometers and groove dimension of 0.8 micrometers. Track pitch of 1.6 micrometers and groove dimensions of 0.8 micrometers are consistent with conventional dimensions of the filing period of Suzuki '384, while 1.6 microinch track pitch and groove dimensions of 0.8 microinch are far smaller than any conventional optical recording processes were capable of at the priority date and filing date of Suzuki '384.

The relied upon passages of Suzuki merely describe the standard mastering processes of focused scanning laser beam exposure using single layer photoresist. This was conventional and commonly practiced for the 1.6 micrometer track pitch and 0.8 micrometer groove dimension described in priority JP 62-90081. Suzuki '384 refers to the conventional nature of this background teaching frequently in the background section, and then describes the invention of Suzuki '384 in Summary and Detail Description sections. The description of Suzuki '384 describes “the spot diameter of the laser beam for read-out is ordinarily within the width of the

land portion” (col.1, line 50-54) and also describes tracing singular land portions using said laser spot (col.1, lines 39,40) and laser beam actuated to trace out singular land portion (col.1, line 45).

Clearly, one of ordinary skill in the art would have recognized that all of these descriptions are unattainable for track pitches that are much smaller than the focal spot size of the laser beam.

The present application, in contrast, describes the optical physics limitation of a focused laser spot size as depending on wavelength and lens numerical aperture, with limitations of 220 nm even for UV light (350nm wavelength) and highest Numerical Aperture (NA=0.92). Suzuki '384 does not enable any 40nm laser spot size that would be required to attain to track pitch dimensions of 1.6 microinch and groove dimension of 0.8 microinch. The mis-translated dimensions of 1.6 microinch track pitch and of 0.8 microinch groove dimensions are not enabled.

As further evidence that the teaching of Suzuki '384 is descriptive of conventional track pitches at 1.6 micrometer and conventional groove dimensions of 0.8 micrometer (rather than microinches), Applicant notes that Suzuki '384 describes the optical push-pull tracking method in col. 1, lines 60-65, as justification for the dimensions cited by the Examiner. The push-pull method, as it is commonly called, relies on the optical diffraction of the incident focused laser light into +/- 1<sup>st</sup> order diffraction beams, which interfere with the zero order reflected beam to create a trackable signal from a split tracking detector. If Suzuki '384 actually contemplated a 40nm track pitch, then no optical diffraction would occur since the diffraction grating would be significantly less than the incident wavelength (hence resulting in no push-pull tracking signal). Furthermore, Suzuki's teaching does not enable any way to obtain an optical diffraction pattern from a pattern of sub-optically diffracting pitch (i.e. 40nm), but instead presumes conventional tracking means, which is consistent with 1.6 micrometer pitch of priority document JP 62-90081.

In addition, Suzuki '384 teaches a laser beam focused on a photoresist layer for the mastering step (see col. 2, line 4-6), but does not provide any enabling disclosure that describes how to provide 40nm dimension laser spot size (which is actually below the limits of optical physics at ~220nm).

In short, Suzuki '384 describes convention processes from the time frame of the filing of Suzuki '384 (e.g., 1987-1988), and fails to address any of the challenges of translating 1.6 micrometers track pitches to 1.6 microinches (40nm) track pitches. On the contrary, Suzuki '384

teaches conventional processes from the time frame of 1987-1988, consistent with the dimensions cited in priority document JP 62-90081. Suzuki simply fails to disclose any way to attain track pitches anywhere near 1.6 microinches, or groove dimensions anywhere near 0.8 microinch.

Groove bottom width has not been properly addressed by the Examiner

In addition to the arguments above, Applicant also notes that the Examiner has not properly addressed the groove width features of Applicant's claims. For example, claim 30 specifically recites master grooves that extend down to the master substrate, wherein the master grooves define master groove bottoms that have a width that is greater than 25 percent of the track pitch. Claim 34 defines master groove bottoms that have a width that is greater than 35 percent of the track pitch. Claim 35 defines master groove bottoms that have a width that is greater than 50 percent of the track pitch. Other dependent claims also recite similar master groove bottom dimensions.

In addressing these master groove bottom width features of claims 30, 34 and 35, the Examiner relied upon the discussion of "groove dimensions" discussed in Suzuki '384. Groove dimensions, per Suzuki '384, however, appear to refer to the average width of the grooves, and not the width of groove bottoms. Conventional groove bottoms are much narrower than the "groove dimensions" defined by Suzuki '384. Accordingly, Applicant submits that the Examiner has failed to properly address the claim limitation of claims 30, 34 and 35 that require master groove bottoms that have a width that is greater than 25 percent of the track pitch, and failed to meet the required burden of proof on this issue. With regard to claim 35, it should be very apparent that the "groove dimensions" discussed in Suzuki '384 (e.g., near 50 percent of the track pitch) would not define groove bottom widths that are even close to 50 percent of the track pitch.

Track pitch less than 2 multiplied by a laser spot size is a structural feature

Claims 36 and 44 require a track pitch less than 2 multiplied by a laser spot size associated with a laser used to perform laser etching. This feature is a structural limitation of the master disc, i.e., a structural limitation of the track pitch on the master pattern. In this case, the track pitch is simply defined relative to a laser spot size associated with a laser used to perform

laser etching of the master pattern in the photosensitive material. Nothing in Suzuki '384 discloses or suggests a track pitch less than 2 multiplied by a laser spot size associated with a laser used to perform laser etching of the master pattern in the photosensitive material, and the Examiner has failed to address this structural feature of Applicant's claims. Various dependent claims further require a track pitch less than 1.6 multiplied by the laser spot size associated with a laser used to perform the laser etching.

**Conclusion**

All claims in this application are in condition for allowance. In view of the foregoing arguments, Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 09-0069. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

By:

10/2/7

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Publicized Report of Japan Patent

Japan Patent Department (JP)

No. S 63-255846

Disclosed date: Oct. 24, 1988

Int. cl. Distinguished No.  
G 11 B 7/24  
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Adjustment No. in office  
B-8421-5D  
A-7520-5D



Request for examination: pending  
Numbers of requested claims: 1

Name of invention: optical disk with guiding groove  
Application number: No. S 62-90081  
Application date: April 13, 1987

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Detailed report

(Background of the invention)

An optical disk with a guiding groove, for example, is shown in figure 4. The lower surface of a transparent circular substrate 1 which consists of PMMA, PC, etc., has grooves and projections in concentric circles or in a whirlpool shape. A reflective layer 5 covers this entire lower surface, along with a guiding groove 2 and a land 3. The land part 3 has pre-address pits 4 already formed. In addition, the guiding groove 2 and land 3 correspond to projections and grooves on the reflective layer 5 when viewed from the side which is irradiated by the laser beam for reading, writing. This substrate 1 forms an

optical disk with a guiding groove when it is attached to another substrate 7 via a spacer 6 so that the inner space with the reflective layer 5 as the inner surface.

Figure 5 is a partially enlarged top view of an optical disk with a guiding groove. The land 3 forms a track, and the part which is shown by F is the pre-format part with pre-address pits 4 already formed corresponding to an address signal. The part shown by R is the recording part where pits 9 are added as pits information by a laser later. The reflective layer 5 is formed from, for example, an organic color element, which is sublimed or evaporated by a laser spot of predetermined power to form the recording layer.

During the writing operation for this optical disk with a guiding groove, a laser beam is used to irradiate the substrate 1. This laser spot follows the land and the address signal is read by reflected light from the pre-address pits 4 of the pre-format part F. Then pits 9, that is, information are recorded in the recording part R. Next, during reading, the laser beam for reading follows the land part 3, and the address is read from the pre-address pits 4 of the pre-format part. The laser is operated so that it reads information from the pits 9 which has been recorded in the recording part R. A tracking servo is used to make the laser beam to follow the land. The spot diameter of the laser beam for reading is bigger than the diameter of the laser beam for writing within the land. It is also bigger than the area with the pre-address pits.

Accordingly, in order make the servo cause the laser beam to follow the land to read the disk, the optical disk must have a guiding groove that increases tracking error signal and cross track signal by amplifying the light diffracted by the guiding groove. For example, in order to maximize the tracking error signal by push-pull methods with  $\lambda/8$  depth of guiding groove and  $1.6\text{ }\mu\text{m}$  track pitch, the maximum signal can be obtained if the width of the guiding groove is  $0.8\text{ }\mu\text{m}$ .  $\lambda$  is the wavelength of the laser light, and the track pitch is the center distance between adjacent pairs of guiding grooves on the land.

In order to satisfy these conditions, the manufacturing process for optical disks with guiding grooves used a laser to expose photo resist while rotating the glass master disk. Next, the master disk is developed, and U shaped guiding grooves are formed in the radial direction. The guiding grooves with U shaped horizontal section so-called hit bottom, i.e. the grooves go through the photo resist layer and expose the glass disk. "U shaped" does not express the relationship between the width and depth of the grooves, but it means that the bottom of the groove is rounded.

It is possible to make optical disks with guiding grooves by arranging a reflective layer the main surface which carries the guiding groove and land part of the glass master disk. However, metal stamper is usually made from a material such as nickel using the glass master disk as the mother mold, and large number of PMMA optical disks are made from the stamper. A reflective layer is formed on the substrate, and the optical disk with guiding grooves shown in figure 4 is acquired.

With optical disks with guiding grooves of the prior art, the laser beam for writing and reading tends to catch the edge of the guiding groove in many cases. Because of this, the degree of reflected light from the pre-formatted part drops, and this may cause errors reading the address signal.



EPL



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**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/055,825	04/06/98	EDWARDS	J I201.110.101

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ART UNIT

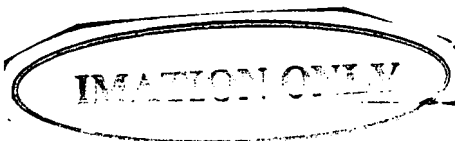
PAPER NUMBER

1756

INATION LEGAL AFFAIRS

DATE MAILED:

09/30/99



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REFERRED TO

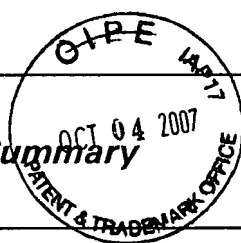
Due 12-30-99

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED  
OCT - 7 1999  
ERIC D. LEVINSON

Commissioner of Patents and Trademarks

**Office Action Summary**



Application No.  
**09/055,825**

Applicant(s)  
**Edwards**

Examiner  
**Martin J. Angebrandt**

Group Art Unit  
**1756**



☒ Responsive to communication(s) filed on Nov 3, 1998

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**

☒ Claim(s) 1-55 is/are pending in the application.

Of the above, claim(s) 27-55 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-26 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☒ Claims 1-55 are subject to restriction or election requirement.

**Application Papers**

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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1 The disclosure is objected to because of the following informalities: the application referred to on page 19 should include the US application number in its reference to that application.

Appropriate correction is required.

2 Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-26, drawn to a method of making an optical disk stamping master using exposure and development of a substrate coated with a photosensitive resin, classified in class 430, subclass 320.
- II. Claims 27-37, drawn to a stamping master including an patterned photosensitive layer, classified in class 430, subclass 9.
- III. Claims 38-45, drawn to a optical disk substrate, classified in class 428, subclass 64.2.
- IV. Claims 46-55, drawn to a stamper substrate where the pattern is formed in the substrate material, classified in class 425, subclass 396.

3 The inventions are distinct, each from the other because of the following reasons:

Inventions group I and group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product may be made using a molding process where the exposure of the

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photosensitive layer is not followed by a development step, but fully cured while in contact with a transparent embossing master.

4 Inventions group I and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the disk may be made by either directly mastering the substrate or a stamper used to make the impression in the disk substrate, using laser ablation to form the pattern.

5 Inventions group I and IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the stamper may be made using laser ablation to form the pattern directly in the substrate.

6 Inventions group II and group III are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this case the product may be

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made using a stamper made in a different manner, such as direct laser ablation, or the disk may be made by directly ablating the surface to form the desired pattern.

7 Inventions group II and group IV are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful in forming a resin based stamper, rather than a metal stamper which has the pattern etched in it and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

8 Inventions group IV and group III are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this case the product may be

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made using a stamper made in a different manner, such as direct laser ablation, or the disk may be made by directly ablating the surface to form the desired pattern.

9 Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and recognized divergent subject matter, restriction for examination purposes as indicated is proper.

10 During a telephone conversation with Eric Levinson on September 2, 1999 a provisional election was made with traverse to prosecute the invention of group I, claims 1-26. Affirmation of this election must be made by applicant in replying to this Office action. Claims 27-55 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

11 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

12 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13 Claims 1-10,14-16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Roach et al. '337.

Roach et al. teaches the formation of a stamping master using the process, where a spiral groove is formed down to the bottom of the substrate and is electroformed to form a first and second and third metal master which is then used to emboss information into a plastic substrate.  
(3/20-4/18)

14 Claims 1-20 and 22-26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by DeLaat '735.

DeLaat '735 teaches the formation of a spiral pattern, where the depth of the grooves is 100 nm. (0.1 microns) This is hardened through UV exposure, silver is deposited on it, nickel electroformed thereon, the master is peeled away and a second master is formed which is identical to the pattern in the master.

15 Claims 1-16 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Yoshizawa et al. '563.

Figures 1a-g teach the exposure of the resist, such that the resist remaining on the glass substrate surface is smaller than the openings, the electroforming of this to form a stamper which is then used to shape a polycarbonate substrate. (see column 1)

16 Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeLaat '735, in view of Yoshizawa et al. '563.

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It would have been obvious to one skilled in the art to modify the process of DeLaat '735 to make other optical recording media substrate which are known to be useful in the art, such as those which have wider openings than resist covered areas taught by Yoshizawa et al. '563, with a reasonable expectation of forming a useful recording medium substrate and being able to form more of them due to the number of stamping masters which can be made from the first generation master and used to emboss substrates.

17 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

DeGraaf et al. '607 teaches the use of the cured master to form optical disc substrates.

Higuchi et al. DE 4140712 teaches forming masters where the open spaces are larger than the resist covered areas.

Ichihara et al. '756 teaches optical recording media of interest.

Leonard et al. '804 and Santoh et al. '469 teach making stampers for optical articles and using them.

Keizer "VideoDisc Mastering" RCA Review Vol. 39(1) (3/1978) pp 60-86.

18 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Angebrannndt whose telephone number is (703) 308-4397.

I am normally available between 7:30 AM and 5:00 PM, Monday through Thursday and 7:30 AM and 4:00 PM on alternate Fridays.

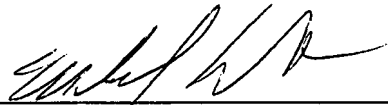
If repeated attempts to reach me are unsuccessful, my supervisor may be reached at (703) 308-4552.



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Facsimile correspondence should be directed to (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

A handwritten signature in dark ink, appearing to read 'Martin J. Angebranndt', is written over a horizontal line.

Martin J. Angebranndt  
Primary Examiner, Group 1750  
September 23, 1999



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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/850,252	05/07/2001	Jathan D. Edwards	53868US03	1544

7590

04/09/2003

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St. Paul, MN 55164-0898

IMATION LEGAL AFFAIRS

APR 15 2003

REFERRED TO

EXAMINER

HUBER, PAUL W

ART UNIT PAPER NUMBER

2653

DATE MAILED: 04/09/2003

Restriction Due: 5/09/03  
Deadline: 9/9/03

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**



Application No.

09/850,252

Applicant(s)

EDWARDS, JATHAN D.

Examiner

Paul Huber

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-29 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 09/730,246.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

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**DETAILED ACTION*****Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-11, drawn to a master disc containing an imaged photoresist pattern, classified in class 430, subclass 321.
- II. Claims 12-19, drawn to an optical disk substrate, classified in class 369, subclass 275.4.
- III. Claims 20-29, drawn to a stamper for optical disks, classified in class 101, subclass 28.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not used together as the master disc is used to form the stamper and the stamper is used to emboss the pattern into the disk substrate.

Inventions I and III are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a optical recording medium itself or may be used to form a stamper using patterned layer(s) having the relief pattern formed on a substrate and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Inventions III and II are related as apparatus and product made. The inventions in this relationship are distinct if either or both of the following can be shown: (1) that the apparatus as claimed is not an obvious apparatus for making the product and the apparatus can be used for making a different product or (2) that the product as claimed can be made by another and materially different apparatus (MPEP § 806.05(g)). In this case the product may be made by a stamper, which has the relief pattern formed in a layer(s) on the substrate rather than etched into the substrate.

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Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

A telephone call was not made to the applicant's representative to request an oral election to the above restriction requirement due to the nature of the application and the need for the examiner to promptly act on the application.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Huber whose telephone number is 703-308-1549. The examiner can normally be reached on Flexi-Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 703-305-6137. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-9051 for regular communications and 703-308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

703-308-1549



Paul Huber  
Primary Examiner  
Art Unit 2653

pwh  
April 7, 2003